PATENT
Attorney Docket No.:28967/34140A

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: K. Alitalo and V. Joukov

Serial No.: 09/534,376

Filed: March 24, 2000

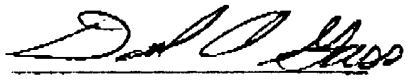
For: Vascular Endothelial Growth Factor C (VEGF-C) Protein and Gene, Mutants Thereof, and Uses Thereof

Group Art Unit: 1646

Examiner: O'Hara, E.

I hereby certify that this paper is being deposited with the United States Postal Service, with sufficient postage, as first class mail in an envelope addressed to: Commissioner for Patents, Washington, D.C. 20231 on this date:

September 21, 2001



David A. Gass

ELECTION WITH TRAVERSE IN RESPONSE TO RESTRICTION REQUIREMENT

Commissioner for Patents
Washington, D.C. 20231

Sir:

In a restriction requirement dated August 21, 2001, in the above-identified matter, the Patent Office alleged pending claims 1-39 were directed to three distinct inventions, with distinct sub-inventions, and required restriction. Reconsideration is requested in view of the following remarks.

I. Summary of the Restriction Requirement

Citing 35 U.S.C. § 121, the Examiner alleged that claims 1-39 were drawn to three distinct inventions A through C:

Group A: Claims 1-37, drawn to a method of regulating endothelial cell growth or treating a patient by administration of a VEGF-C polypeptide;

Group B: Claims 5 and 8, drawn to a method of treating a patient by administration of an antibody to an amino acid sequence comprising a portion of SEQ ID NO: 8 to permit binding; or

Group C: Claims 38 and 39, drawn to a method for screening for inhibitors of the Flt4 receptor kinase by binding assay.

Citing 35 U.S.C. § 121, the Examiner further alleged that inventions A and B were themselves each drawn to twelve inventions, requiring further election of one of the twelve.

II. Election

The Applicants hereby elect Group A, which includes Claims 1-37 as drawn to a method of regulating endothelial cell growth or treating a patient by administration of a VEGF-C polypeptide. With respect to the second part of the restriction requirement, the Applicants elect Subgroup V1, drawn to the methods of Group A using a polypeptide including residues 161-211 and lacking at least carboxy-terminal residues of SEQ ID NO: 8 beyond residue 227. This election of group and species is made **with traverse**.

III. The Applicants traverse the restriction of claim Group A and Group B

The Patent Office restricted the method of Group A from the method of Group B, alleging that "both are methods of treatment, but the methods are distinct because they use distinct products." The Applicants respectfully submit that both groups

describe a method of modulating Flt4 activity by administering a protein. Specifically, both VEGF-C (claims 1-37 (Group A)) and the antibody of VEGF-C (claims 5 and 8 (Group B)) are proteins that modulate Flt4-expressing cells.

The antibodies of Group B bind to the polypeptides of Group A. If the search based on the polypeptides of Group A indicate the uses of these polypeptides are novel and non-obvious, the use of the Group B antibodies should also be novel and non-obvious. Thus, it should not be a serious burden on the Examiner to do one search and examination based on the claims in Group A and Group B. In fact, it would be expected that a search relating to Group B (antibodies) will require evaluation of art relating to the antigen (Group A), since antibodies are frequently characterized in the literature *only* by the antigens to which they bind.

It should also be noted that Group B involves the same claims as Group A, further minimizing the "burden" involved in co-examination. Given the above discussion, and even though Applicants have elected the claims of Group A for the instant examination, Applicants respectfully solicit the Examiner's discretion in rejoining the claims of Group A with Group B, because when these claims are ultimately examined, examining these claims together as one Group would not be unduly burdensome. See MPEP § 803 ("If the search and examination of an entire application can be made without serious burden, the examiner must examine it on the merits, even though it includes claims to distinct or independent inventions."). As such, Applicants respectfully request that the restriction requirement, in respect to Group A and Group B, be withdrawn and these groups be examined simultaneously.

IV. The Applicants traverse the further restriction of Group A into twelve "species"

A. The Twelve Subgroup's Are Related

In the Restriction Requirement, the Examiner has alleged that the invention of Group A contains twelve distinct products and an election of one of the products (Subgroups) is required.

Subgroups I and VI-IX are *related* in that they specify amino acid sequences from the human VEGF-C polypeptide. Subgroup I recites the full length prepro-VEGF-C amino acid sequence in SEQ ID NO: 8, and thus recites the longest portion of SEQ ID NO:8 of these five Subgroups. Subgroup VI recites the shortest minimum VEGF-C amino acid sequence of these five Subgroups (residues 161-211 of SEQ ID NO: 8), with Subgroups VII-IX reciting successfully larger minimum sequences. Because of the "open" language employed in the claims, each Subgroup VI-IX comprises a minimum recited portion of SEQ ID NO: 8, but also comprises successively larger VEGF-C polypeptide fragments that include the minimum recited portion. Thus, Subgroup VI (minimum 161-211) includes within its scope subject matter of Subgroup VII (minimum 131-211), which in turn includes within its scope subject matter of Subgroup VIII (minimum 113-213), which includes subject matter of Subgroup IX (minimum 32-227).[1] Subgroup V, which recites SEQ ID NO: 8 but no explicit portion thereof, embraces subject matter of all of Subgroups VI-IX.[2]

B. The Provisions of the MPEP Dictate that the Twelve Subgroup Restriction should be withdrawn.

1. MPEP § 806.04(b)

Because of the manner in which Subgroups I and V-IX are related, MPEP § 806.04(b) requires that the validity of a restriction requirement be "determined by both the practice applicable to election of species and the practice applicable to other types of restrictions, such as those covered by MPEP §§ 806.05-806.05(i)."

The "election of species" prong of the test expressed under MPEP § 806.04(b) requires that if "the claims [are] to be restricted to different species [, the

[1] All of Subgroups VI-IX also lack at least residues beyond 227 of SEQ ID NO: 8.

[2] Subgroups II-IV and X-XII are all related to each other as variants of VEGF-C polypeptide in which an evolutionary conserved cysteine residue of VEGF-C has been deleted or replaced. See e.g., pg 12, lines 5-16 and 21-30; pg 13, lines 1-24; pg 28, lines 11-16; pg 98, lines 20-29; pg 99, lines 1-2.

Examiner] must recite the mutually exclusive characteristics of the species." MPEP § 806.04(f). As explained above, Subgroups I and V-IX specify different minimum lengths of the same human VEGF-C polypeptide as defined under SEQ ID NO:8. These products (Subgroups V-IX) are not mutually exclusive but rather, recite overlapping genera of varying scope, as explained above. The Examiner has failed to identify mutually exclusive characteristics of Subgroups V-IX, and it is not clear that the mutual exclusivity requirement of MPEP § 806.04(f) has been considered in the decision to restrict.

2. MPEP § 808.02

If the Examiner insists upon restriction for Subroups I and V-IX (which have been shown to be related), the Examiner is **required** to demonstrate a different **field** of search for the several inventions claimed or otherwise provide support for restriction. (A mere assertion that a different search is required is insufficient.) In this case, "the classification is the same and the field of search is the same...., no reasons exist for dividing among related inventions." MPEP § 808.02. The search for each Subgroup may entail using different portions of SEQ ID NO:8 in a sequence database query, but the **field** of search for each Subgroup has not been demonstrated to be different.

3. MPEP § 803

The MPEP mandates that if the search and examination of the entire application can be made without serious burden, the Examiner must examine it on the merits, even though it includes claims to independent and distinct inventions. See MPEP §803. Because of the long stretches of sequence identity (SEQ ID NO:8) between Subgroups I and V-IX, any thorough search of elected Subgroup VI will likely uncover all art related to any of the other, non-elected Subgroups that are being restricted by the Examiner.

4. Linking generic claims

The MPEP provides that when a patent application contains genus claims linking alleged patentably distinct species, the restriction requirement is supposed to

acknowledge the existence of such claims and acknowledge that the restriction is subject to the non-allowance of the linking claims. Upon allowance of linking claims, the restriction requirement as to linked species must be withdrawn. See MPEP §809.03. The restriction requirement failed to contain usual acknowledgment of this standard practice. Claims 1-37 of Group A include several generic claims of varying scope (e.g., claims 5 and 11) that encompass multiple Subgroups from the restriction requirement. It is the Applicants expectation that their generic claims are free of the prior art of record, and that the withdrawal of the restriction is appropriate for this reason as well.

V. The Separation of Group B into Twelve Subgroups Was Improper

The analysis provided for the twelv subgroups of Group A is applicable to the twelve similar Subgroups alleged for Group B, and are repeated here by reference.

VI. CONCLUSION

The Applicants elect Group A, subgroup VI. However, for the reasons outlined above, the Applicants request rejoinder of Group B with Group A; and request that Subgroups I, V, and VII-IX be examined simultaneously with Group VI. The remaining subgroups should be combined with each other, and a similar consolidation of the twelve Group B subgroups is requested.

Respectfully submitted,
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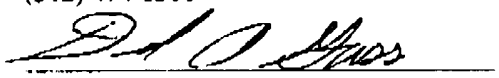
September 21, 2001 By: 

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